EQUIPPING THE CULINARY SCIENCE LABORATORY FOR THE NEW CULINOLOGY PROGRAM

Award Number: 2006-03508
Amount: $190,000.00

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Institutions and Agencies/Organizations Involved

1. Center for Food Science and Nutrition Research
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   Fresno, CA 93740-8019

2. Department of Food Science and Nutrition
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3. Center for Research, Evaluation, Assessment, and Dissemination (CREAD)
   Kremen School of Education and Human Development
   5005 N. Maple Avenue MS ED 117
   California State University, Fresno
   Fresno, CA 93740-8025

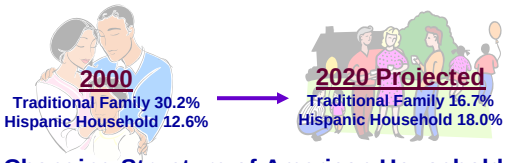
CSREES/USDA Relevant Priority or Mission Area

- Relevant Priority or Mission Area
  - Strength institutional educational capacities including libraries, curriculum, faculty, scientific instrumentation, instruction delivery systems, and student recruitment and retention, in order to respond to identified state, regional, national, or international educational needs in the food and agricultural sciences.
- Educational Need Area
  - Scientific Instrumentation for Teaching

USDA Collaborators

- None

Introduction

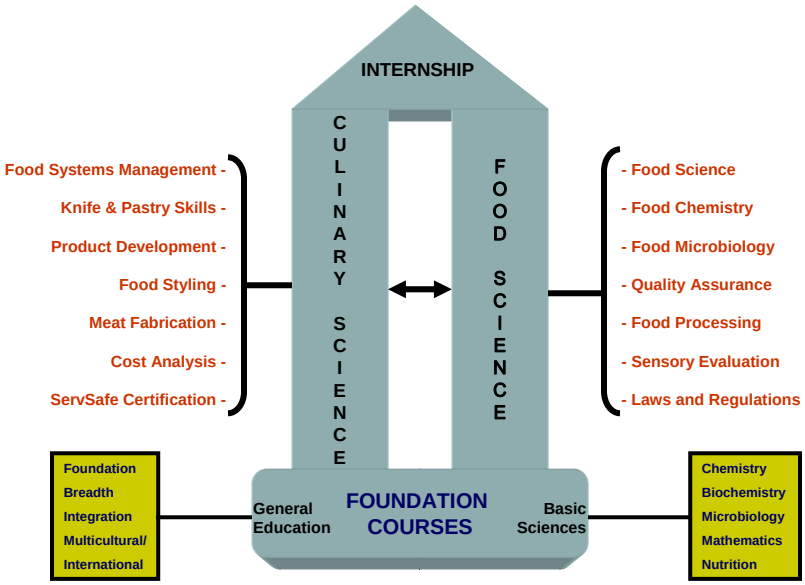


Changing Structure of American Household

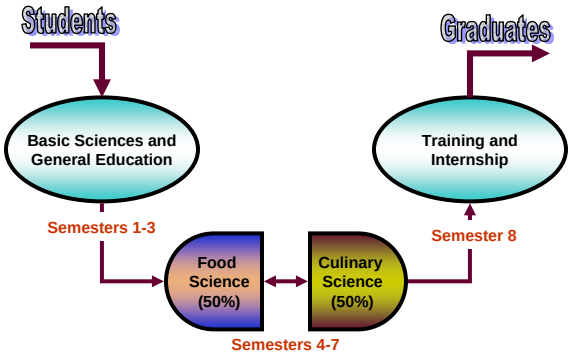
- According to a USDA study (Stewart et. al., 2004), the percentage of the traditional family household is decreasing while single person/family household is on the rise. The households today prefer to spend less time in preparation of their meals.
- The food industry is adapting to this change by introducing partially or fully prepared foods (Ready-to-eat (RTE) meals and food products) that offer high quality and convenience.
- However, the industry is experiencing extreme difficulties in finding appropriately trained personnel to develop and manufacture the new value-added RTE meals and food products.

Introduction

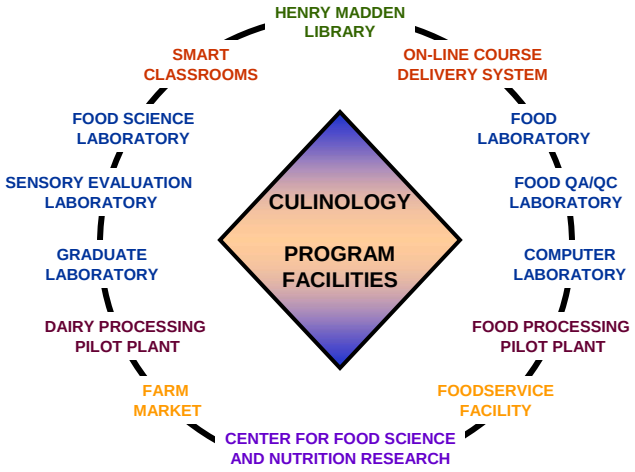
- California State University, Fresno is the closest economically accessible and major Hispanic serving institution in the San Joaquin Valley that offers a quality education in agriculture and food processing.
- Development of new academic programs to enhance the range of opportunities for students and is one of the strategic goals of the university.
- In keeping with University's plan to promote value-added agriculture, a new Culinology Program has been developed combining two disciplines of Food Science and Culinary Science.



Curriculum Subject Areas for the B.S. Culinology Degree Program



Progression in the Four Year Culinology Program



Institutional Resources and Facilities

- **The Culinology Program emphasizes acquisition and application of knowledge in both areas of food and culinary sciences.**
- **This project provides funding from the USDA to**
  - **Equip our culinary science laboratory with state-of-the-art equipment.**
  - **Supplement our food science laboratories and pilot-plants**

Project Objectives

- Overall objective:
  - To improve instructional capability of the new Interdisciplinary Culinology Program.
- Specific objectives:
  - To acquire state-of-the-art culinary/food service laboratory equipment;
  - To deliver scientific training using a state-of-the-art culinary science laboratory.

Project Activities

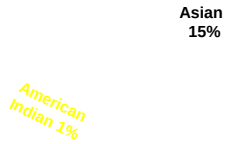
- Acquisition of the culinary/food service laboratory equipment
  - All purchases of laboratory equipment will follow standard government procedures used by the university;
  - The equipment will be acquired, installed in our culinary science laboratory and tested for performance.
- Scientific training in Culinology using the state-of-the-art culinary science laboratory
  - The state-of-the-art culinary science laboratory will be utilized to carry out laboratory exercises, and student projects for the following courses:
    - Food and Culinary Science I
    - Food and Culinary Science II
    - Food Product Development
    - Food for Health
    - Quantity Food Production
    - Cost Analysis in Food Service Management

Project Timeline

TASKS	TIMETABLE BY QUARTERS (Sept 2006 - Aug. 2008)							
	YEAR 1 (Sept '06 - Aug. '07)				YEAR 2 (Sept '07 - Aug. '08)			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
1. Quotation request	xxxxxx							
2. Order/fabrication		xxxxxxxxxxxx						
3. Equipment installation			xxxxxxxxxxxx					
4. Equipment testing			xxxxxxxxxxxx					
5. Culinology laboratories					xxxxxxxxxxxxxxxxxx			
6. Student projects					xxxxxxxxxxxxxxxxxx			
7. Impact evaluation					xxxxxxxxxxxxxxxxxx			
8. Process evaluation	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx	
9. Report writing				xxxxxx				xxxxxx

Beneficiaries

- Diverse student population at California State University, Fresno;
- The Culinology and Food Science programs;
- The Culinary Science laboratory;
- The Food Processing industry;
- Faculty at California State University, Fresno.



Current Student Demography at California State University, Fresno.

Evaluation

- The **Center for Research, Evaluation, Assessment, and Dissemination (CREAD)** will conduct the evaluation of the *Equipping the Culinary Science Laboratory for the New Culinology Program*.
- The evaluation plan is based on both a process and outcome design.
  - The process evaluation will be formative; the evaluators will meet regularly with the project director to ensure that all project goals and objectives are addressed and met.
  - The outcomes will be assessed throughout the two years of the grant in order to identify program strengths and weaknesses.
- In an effort to monitor revised instructional activities, CREAD will develop a checklist of learning objectives and content in conjunction with the project director.
  - This checklist will be used to compare previous and revised syllabi, rubrics for evaluating student projects, and recruitment efforts for the Culinology Program.
  - The Program Coordinator expects 10 students to be enrolled by the end of year one and 20 students by the end of year two.
- In conjunction with the project director, CREAD will produce a specific scoring rubric designed to measure increase in student knowledge, understanding of research theory, and use of laboratory equipment.
  - The rubrics will be used by instructors to recognize those students in need of instructional assistance. Data will also be used to develop evaluation recommendations for program improvement.

Project Outcomes and Evaluations

(1) To acquire state-of the art equipment in order to improve the instructional capability of Culinology.	1) Order and purchase new equipment. 2) Installation and testing of new equipment.	1) Document review 2) Digital pictures of new equipment and laboratory setting. 3) Observation	CREAD will: 1) develop a timeline checklist to verify completion of activities 2) document equipment installation 3) conduct observations during testing and use of equipment	Year 1
(2) To deliver scientific training using state of the art culinary science laboratory.	Compare previous and new course syllabi for evidence of change in teaching emphasis, student activities, student-learning outcomes, and assessment.	1) Syllabus review 2) Survey Workshop participants to measure increase in interest and knowledge in Culinology. 3) Observation checklist 5) Develop rubrics for new courses	CREAD will: 1) review syllabi to document change teaching emphasis 2) develop and field test assessment instruments (survey, checklist and rubrics) 3) enter/analyze data for all instruments	Year 1 Year 2

Expected Impact

- Equipping the culinary science laboratory will
  - Supplement our food science laboratories and pilot-plants;
  - Enhance our instructional capability;
  - Enable faculty to deliver an exceptionally strong program directly impacting the quality of training received by our graduates.
- Utilization of modern, state-of-the-art equipment in laboratory settings, student projects, and hands-on training will
  - Enhance the understanding of the scientific principles involved;
  - Amply prepare our students for a rewarding industrial career upon graduation.
- Students with precise scientific training using state-of-the-art equipment are most likely to succeed in the current job market.
- This program will provide an innovative, well-trained, fully-educated workforce who will
  - Meet the current needs of the industry; and
  - Make positive contributions to the growth and development of value-added food processing.